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SYSTEM:OS - DIALOG OneSearch

File 15:ABI/Inform(R) 1971-2004/Jun 27

(c) 2004 ProQuest Info&Learning

*File 15: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

File 9:Business & Industry(R) Jul/1994-2004/Jul 06

(c) 2004 The Gale Group

File 610:Business Wire 1999-2004/Jul 05

(c) 2004 Business Wire.

*File 610: File 610 now contains data from 3/99 forward.

Archive data (1986-2/99) is available in File 810.

File 810:Business Wire 1986-1999/Feb 28

(c) 1999 Business Wire

File 275:Gale Group Computer DB(TM) 1983-2004/Jul 05

(c) 2004 The Gale Group

File 476:Financial Times Fulltext 1982-2004/Jun 25

(c) 2004 Financial Times Ltd

File 624:McGraw-Hill Publications 1985-2004/Jun 24

(c) 2004 McGraw-Hill Co. Inc

*File 624: Homeland Security & Defense and 9 Platt energy journals added
Please see HELP NEWS624 for more

File 636:Gale Group Newsletter DB(TM) 1987-2004/Jul 05

(c) 2004 The Gale Group

File 621:Gale Group New Prod.Annou.(R) 1985-2004/Jul 02

(c) 2004 The Gale Group

File 613:PR Newswire 1999-2004/Jul 05

(c) 2004 PR Newswire Association Inc

*File 613: File 613 now contains data from 5/99 forward.

Archive data (1987-4/99) is available in File 813.

File 813:PR Newswire 1987-1999/Apr 30

(c) 1999 PR Newswire Association Inc

File 16:Gale Group PROMT(R) 1990-2004/Jul 05

(c) 2004 The Gale Group

*File 16: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

File 160:Gale Group PROMT(R) 1972-1989

(c) 1999 The Gale Group

File 634:San Jose Mercury Jun 1985-2004/Jul 03

(c) 2004 San Jose Mercury News

File 148:Gale Group Trade & Industry DB 1976-2004/Jul 02

(c)2004 The Gale Group

*File 148: Alert feature enhanced for multiple files, duplicate removal, customized scheduling. See HELP ALERT.

File 20:Dialog Global Reporter 1997-2004/Jul 07

(c) 2004 The Dialog Corp.

File 35:Dissertation Abs Online 1861-2004/May

(c) 2004 ProQuest Info&Learning

File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13

(c) 2002 The Gale Group

*File 583: This file is no longer updating as of 12-13-2002.

File 65:Inside Conferences 1993-2004/Jul W1

(c) 2004 BLDSC all rts. reserv.

File 2:INSPEC 1969-2004/Jun W4

(c) 2004 Institution of Electrical Engineers

*File 2: Alert feature enhanced for multiple files, duplicates removal, customized scheduling. See HELP ALERT.

File 233:Internet & Personal Comp. Abs. 1981-2003/Sep

(c) 2003 EBSCO Pub.

File 474:New York Times Abs 1969-2004/Jul 06

(c) 2004 The New York Times

File 475:Wall Street Journal Abs 1973-2004/Jul 06

(c) 2004 The New York Times

File 99:Wilson Appl. Sci & Tech Abs 1983-2004/Jun

(c) 2004 The HW Wilson Co.
File 256:SoftBase:Reviews,Companies&Prods. 82-2004/Jun
(c)2004 Info.Sources Inc
File 348:EUROPEAN PATENTS 1978-2004/Jun W03
(c) 2004 European Patent Office
File 349:PCT FULLTEXT 1979-2002/UB=20040701,UT=20040624
(c) 2004 WIPO/Univentio
File 347:JAPIO Nov 1976-2004/Feb(Updated 040607)
(c) 2004 JPO & JAPIO

*File 347: JAPIO data problems with year 2000 records are now fixed.
Alerts have been run. See HELP NEWS 347 for details.

Set	Items	Description
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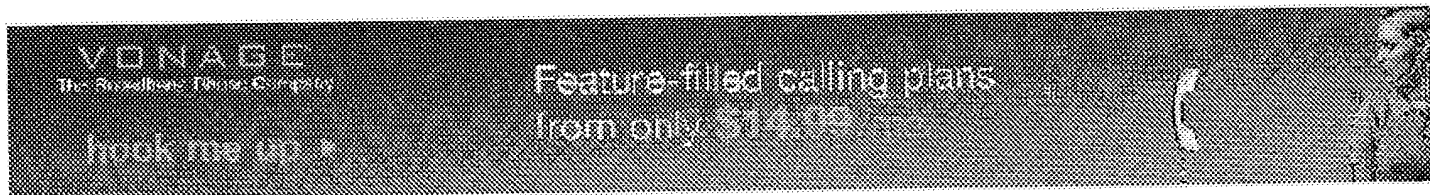
?

Set	Items	Description
S1	318	(REQUEST? (N5) (ID OR IDENTIF? OR KEY)) AND ((PEER(W)TO(W) - PEER) OR (FILE(W)SHARING) OR (CONTENT(W)SHARING) OR (SHARE(W) - CONTENT) OR (SHARE(W)FILE) OR P2P OR (PERSON(W)TO(W)PERSON))
S2	49	S1 AND PD<20000711
S3	49	RD (unique items)
S4	9	S1/TI
S5	45811	KAZAA OR NAPSTER OR GROKSTER OR BLUSTER OR GNUTELLA OR MOR- PHENS
S6	3466	S5 AND PD<20000711
S7	198	S1 AND MATCH?
S8	30	S7 AND PD<20000711
S9	30	RD (unique items)

Set	Items	Description
S1	0	MP3ADVANCE
S2	42	MP3(N2)ADVANCE
S3	14	S2 AND PD<20001107
S4	9	RD (unique items)
S5	6173	NAPSTER AND PD<20001107
S6	1927	NAPSTER AND PD<20000711
S7	591	S6 AND (PAYMENT OR CHARG? OR FEE OR BILLING OR COST)
S8	425	RD (unique items)
S9	568	NAPSTER/TI AND PD<20000711
S10	119	S9 AND (PAYMENT OR CHARG? OR FEE OR BILLING OR COST)
S11	88	RD (unique items)



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How the Old Napster Worked

by [Jeff Tyson](#)

If you spend much time online, then you have most likely heard of **Napster**. What began in 1999 as an idea in the head of a teenager proceeded to redefine the Internet, the music industry and the way we all think about **intellectual property**. Napster is now back in business as a legal, pay-per-song music-download site; but it once was a controversial service that spurred what is still one of the greatest Internet-related debates: Just because we *can* get the music we want without paying for it, *should* we?

In this article, you will learn what the original Napster was, what it did and how it worked. You will also learn why there is so much concern, particularly in the music industry, about the issues of copyright and intellectual property.

First Came MP3

If you have read [How MP3 Files Work](#), then you are familiar with the MP3 format for digital music. You know that you can download MP3 files from the Internet and play them on your computer, listen to them on a portable **MP3 player** or even burn your own CDs. The advantage of the MP3 format is that it makes song files small enough to move around on the Internet in a reasonable amount of time.

The initial MP3 craze was fueled by sites like [MP3.com](#) (which is "temporarily" out of business at the moment). On these sites, anyone can upload a song. The songs are then stored on a **server** that is part of the Web site. Other users can connect to the Web site and download songs they are interested in. Another way of obtaining MP3 files is to perform a **search** on the title or artist that you are looking for. Quite often, the search would return a lot of links that were **broken**, meaning that the Web page could not be found.

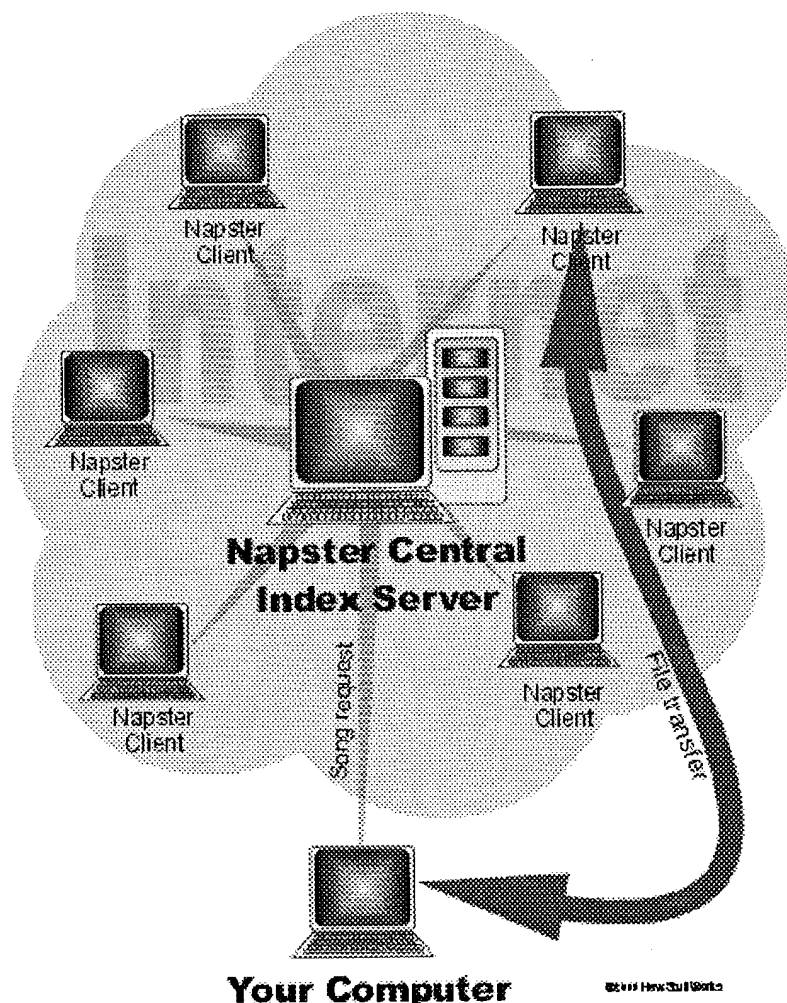
In early 1999, Shawn Fanning began to develop an idea as he talked with friends about the difficulties of finding the kind of MP3 files they were interested in. He thought that there should be a way to create a program that combined three key functions into one. These functions are:

- **Search engine:** Dedicated to finding MP3 files only
- **File sharing:** The ability to trade MP3 files directly, without having to use a centralized server for storage
- **Internet Relay Chat (IRC):** A way to find and chat with other MP3 users while online

Fanning, only 18 at the time, spent several months writing the code that would become the utility **Napster**. He uploaded the original beta version to [download.com](#), where it quickly became one of the hottest downloads on the site. Shawn knew he had stumbled on to something big.

Peer-to-Peer File Sharing

Napster (Napster was Fanning's nickname in high school, because of his hair) is a different way to distribute MP3 files. Instead of storing the songs on a central computer, the songs live on users' machines. This is called **peer-to-peer sharing**, or P2P. When you want to download a song using Napster, you are downloading it from another person's machine, and that person could be your next-door neighbor or someone halfway around the world. (See [How File Sharing Works](#) to learn more.)



Let's take a look at what was necessary for you to download a song that you are interested in using the old Napster.com:

You needed:

- A copy of the Napster utility installed on your computer
- A directory on your computer that has been **shared** so that remote users can access it
- Some type of Internet connection

The provider of the song needed:

- A copy of the Napster utility installed on his computer
- A directory on his computer that has been **shared** so that someone else could access it
- Some type of Internet connection that was "on"
- A copy of the song in the designated, shared directory

Here is what happened when you decided to look for the song:

1. You opened the Napster utility.
2. Napster checked for an Internet connection.
3. If it found a connection, Napster logged you onto the central server. The main purpose of this central server was to keep an index of all the Napster users currently online and connect them to each other. It did not contain any of the MP3 files.
4. You typed in the title or artist of the song you were looking for.
5. The Napster utility on your computer **queried** the index server for other Napster computers online that had the song you requested.
6. Whenever a match was found, the Napster server informed your computer where to find the requested file.
7. When the server replied, Napster built a list of these systems in the results window.
8. You clicked on the file(s) that interested you and then chose **Download**.
9. Your copy of Napster attempted to establish a connection with the system hosting the file you selected.

10. If a connection was successfully made, the file began downloading.
11. Once the file was downloaded, the host computer broke the connection with your system.
12. You opened up your MP3 player software and listened to the song.

Piracy Issues

The problem that the music industry had with Napster was that it was a big, automated way to copy copyrighted material. It is a fact that thousands of people were, through Napster, making thousands of copies of copyrighted songs, and neither the music industry nor the artists got any money in return for those copies. (This type of piracy is still happening now, through sites other than Napster.) This is why there was so much emotion around it. Many people loved Napster because they could get music for free instead of paying \$15 for a CD. The music industry was against Napster because people could get music for free instead of paying \$15 for a CD. Napster's defense was that the files were personal files that people maintained on their own machines, and therefore Napster was not responsible.

Individuals tend to be less concerned about copyright laws than businesses have to be, so individuals make all sorts of copyrighted songs available to the world from their personal machines. This means that anyone can download, for free, any song that someone has taken the time to encode in the MP3 format.

Even though Napster was banned from about 40 percent of U.S. colleges and universities when it was operating in its illegal form, some of the biggest users of Napster were college students. There are several reasons for this:

- College students tend to like music.
- Colleges and universities have spent lots of money making high-speed Internet access and computers available to students.
- College students tend to be comfortable with technologies like MP3.
- College students tend to have little money.

These things make the idea of downloading music for free appealing and easy for students. Sites cannot legally store or distribute copyrighted material without permission -- that would be copyright infringement, which is illegal. In fact, MP3.com was sued by the record companies because the company did have copyrighted materials available online for purchase without permission of the copyright holders, even though MP3.com was paying royalties for everything sold.

Songs that you find on legal download sites are:

- In the public domain
- Uploaded by artists who are trying to get exposure
- Released by record companies trying to build interest in a CD
- Paid for by you for the right to download, and the site pays the artist and/or record company royalties

An item that added to the controversy was the Audio Home Recording Act of 1992. This law provides the buyer of a CD or cassette with the right to not only make a copy for their own personal use, but also to make copies for friends as long as the original owner is not selling the copies or receiving any other type of compensation. Napster fans said that what they are doing was perfectly legal since the law does not specify who those friends must be or how many of them you can give a copy to.

Gnutella, Scour and Others

The simple fact is that P2P is here to stay, regardless of legality disputes. Since the introduction of Napster, many other similar utilities and Web sites have appeared. And most of them do not limit file sharing to just MP3s as Napster did. Some, like **Gnutella**, allow virtually anything to be shared.

Another feature of some of these P2P utilities is the elimination of the need for a central index server. In true peer-to-peer fashion, these utilities search each other out online. For example, as soon as a Gnutella client comes online, it says "Hello, I'm here" to another Gnutella client. That client then tells eight other clients that it has already established contact with the new one. Each of those eight then tell seven others, who tell six others and so on. This way, each client has a larger number of other clients who know it is online and what content it has available.

P2P utilities that employ this decentralized approach are virtually impossible to shut down. Since there is no central server maintaining the index of users, there is no easy way to target and stop the use of the program. Many of the content developers in music, video and other industries are beginning to realize that fundamental changes in the way royalties and licensing work are vital to keep up with the revolutionary world of the Internet.

Probably the biggest question that most people have about Napster is, "How did they make money?" The short answer is, "They didn't." Initially, Napster was not intended to be a revenue-generating business. Like many great inventors before, Shawn Fanning created the program to see if it could be done, not because of money. But even he had no idea how big it would become.

STN Search

=> d hist

(FILE 'HOME' ENTERED AT 16:06:57 ON 08 JUL 2004)

FILE 'CONFSCI' ENTERED AT 16:07:07 ON 08 JUL 2004

L1	12 S (FILE OR FILES OR CONTENT OR CONTENTS) () (SHARE OR SHARES OR S
L2	147 S (ACCESS OR AUTHORIZ? OR AUTHORIS? OR USAGE OR USE) (3N) (FEE O
L3	0 S L1 AND L2
L4	0 S (PEER(1W)PEER OR T2P OR P(1W)P) AND L1